



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,179	02/12/2004	Toshio Kasai	P24593	3087
7055	7590	08/23/2005		
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER KHATRI, PRANAV V	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/776,179

Applicant(s)

KASAI ET AL.

Examiner

Pranav V. Khatri

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 2-5 and 10-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 6-9, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/18/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION.**

***Response to Election***

Claims 2-5 and 10-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on August 8, 2005.

Applicant's election with traverse of species (3) in the reply filed on August 8, 2005 is acknowledged. The traversal is on the ground(s) that the species would be coextensive or overlap, and would not be a serious burden if the species of the other embodiments were examined together. This is not found persuasive because the species search would not be linked, and though the search may be coexistent it is not coextensive. Therefore, the search in these areas would be a burdensome.

Applicant alleges that claims 1-9, 16 and 17 are generic to all the species. However it is noted that claims 1, 16 and 17 are generic and accordingly these claims will be treated on the merit.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Saito et al. (US Patent No. 5,497,184).

Regarding claim 1, Saito et al. discloses a laser scanning device (see Saito et al. Fig 6), comprising: a laser source (10) which emits a laser beam (LB); a deflector (1) which dynamically deflects the laser beam (LB) emitted by said laser source (10), the laser beam scanning in a main scanning direction within a predetermined angular area (Col 3 Lines 36-39); a photodetector (6) which receives light and output electronic signal corresponding to the received light; and a sensor lens (8) arranged to receive the laser beam (LB) scanning at a predetermined scanning range, said sensor lens (8) having power at least in the main scanning direction (Col 8 Lines 42-45), said sensor lens (8) converging the incident laser beam (8) on said photodetector (6) (Col 8 Lines 49-53), said sensor lens (8) having width in the main scanning direction varying in the auxiliary scanning direction (converging lenses have the same width in the main direction, but vary in the sub direction is well known in the art).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US Patent No. 5,497,184) in view of Iizuka (US Patent No. 6,493,126).

Regarding claim 6, Saito et al. discloses the invention as set forth above. Saito et al. lacks the teaching wherein said sensor lens converges the laser beam only in the main scanning direction on said photodetector.

However, Iizuka teaches said sensor lens converges the laser beam only in the main scanning direction on said photodetector (see Iizuka Col 2 Lines 43-48).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of a laser scanner by Saito et al. with scanning optical system of Iizuka for the purpose that the photodetector may have a light receiving area elongated in the auxiliary scanning direction, and that area of the photodetector in the auxiliary scanning direction may be substantially equal to the length of the sensor lens in the auxiliary scanning direction.

Regarding claim 7, Saito et al. in view of Iizuka discloses wherein said sensor lens is formed as a part of a cylindrical lens (see Iizuka Fig 6 Numeral 3 and Col 8 Lines 11-13).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US Patent No. 5,497,184) in view of Takasaki et al. (US Patent No. 4,882,490).

Regarding claim 8, Saito et al. discloses the claimed invention as set forth above. Saito et al. lacks the teaching wherein said photodetector has a light receiving area elongated in the auxiliary scanning.

However, Takasaki et al. discloses wherein said photodetector has a light receiving area elongated in the auxiliary scanning (see Takasaki et al. Col 5 Lines 22-25).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of a laser scanner by Saito et al. with a photodetector of Takasaki et al. for the purpose when using a sensor lens that is part of a cylindrical lens the photodetector could have a light receiving area elongated in the auxiliary scanning direction.

Regarding claim 9, Saito et al. in view of Takasaki et al. discloses the claimed invention except for wherein a length of the light receiving area of said photodetector in the auxiliary scanning direction is substantially equal to the length of said sensor lens in the auxiliary scanning direction. It would have been an obvious matter of design choice

to have both lengths be substantially equal to each other, since applicant has not disclosed that having both lengths of the sensor lens and photodetector area substantially equal solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with both lengths not being substantially equal to each other.

Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US Patent No. 5,497,184) in view of Makino (US Patent No. 6,320,647).

Regarding claim 16, Saito et al. in discloses the claimed invention as set forth above. Saito et al. is silent of the teaching wherein said photodetector also serves as a photodetector for outputting a main scanning timing signal which indicates timing of main scan of the laser beam in the main scanning direction.

However, Makino discloses wherein said photodetector also serves as a photodetector for outputting a main scanning timing signal which indicates timing of main scan of the laser beam in the main scanning direction (see Makino Col 4 Lines 21-23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a photodetector for outputting a timing signal for the laser beam in the main scanning direction since it is known in the art that a photodetector can output a signal for timing the laser beam in the main scanning direction.

Regarding claim 17, Saito et al. in discloses the claimed invention as set forth above. Saito et al. is silent of the teaching wherein said laser source is mounted on

said laser scanning device so that position of its optical axis can be shifted in the auxiliary scanning direction.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a laser source mounted on a scanning device so its optical axis is shifted in the auxiliary scanning direction since it is known in the art that the optical axis will shift with regards to the auxiliary direction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pranav V. Khatri whose telephone number is 571-272-8311. The examiner can normally be reached on M-F, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).




Application/Control Number: 10/776,179

Page 8

Art Unit: 2872

Pranav Khatri  
Examiner  
Art Unit 2872



**EUNCHA P. CHERRY**  
**PRIMARY EXAMINER**